(1) the 1996 Act assigned to the states the responsibility of implementing sections 251 and 252 with respect to intrastate aspects of interconnection, service and network elements; and

(2) the 1996 Act assigned to the states the responsibility of assisting the Commission in implementing sections 251 and 252 with respect to interstate aspects of interconnection, service and network elements by reviewing agreements and resolving unresolved issues between parties under section 252 in accordance with "the requirements of section 251, including the regulations prescribed by the Commission pursuant to section 251[.]" Section 252(c)(1).

Thus, OrPUC submits that the provisions of the 1996 Act must be interpreted to give effect to the system of dual state and federal regulation of telecommunications service established therein. This is the most reasonable interpretation of sections 251(d)(3) and (f), 252, 253(b), (c), and (f), 254(f), and 102, when taken together as a whole. The FCC is authorized to adopt rules related to limitations on resale (section 251(c)(4)), unbundling of network elements (section 251(d)(2)), numbering administration (section 251(e)), and number portability (section 251(b)(2)).

**9. A two-track approach, in which broad, general rules are set for states, and specific rules are set for the FCC to use when it needs to play a role that states are empowered to play, balances the needs for state flexibility and a nationwide program.**

State efforts to promote competition have been quite varied. In order to comply with its requirement to prescribe regulations that do not derail state efforts to promote competition consistent with the 1996 Act, the FCC should set broad rules in the areas where it has the authority to make rules. In areas where it does not have explicit authority, it should leave the decision making to states. In the unlikely event that the FCC may decide to preempt a state in any area, the FCC will need its own explicit rules, similar to the rules that states will make for themselves.

In view of the foregoing considerations, the OrPUC suggests that the FCC adopt rules on two tracks: 1. Where appropriate and where the FCC has the authority to do so, it should adopt a set of general guidelines that are consistent with the 1996 Act, but only where it has identified that more detail is needed. The guidelines adopted should be carefully crafted so that they are not inconsistent with state rules or policies already adopted that are consistent with the 1996 Act. 2. In instances where the FCC has authority, it should adopt detailed rules to carry out that authority. These areas include selecting a minimum number of network elements to be unbundled, number portability, and numbering administration. The FCC should also adopt detailed rules for itself for all

of the sections that it might have to carry out if preemption of a state is necessary. States that do not yet have rules of their own could use these rules as a guide when they adopt their own rules. They should also be free to use rules adopted by other states, or to create their own rules. To satisfy the FCC's concern about carrying out its duties under section 271, it could request, for the purposes of the state consultation, that states address a specific set of topic and issue areas, with reference to state-specific rules where applicable. States would not have to adopt identical rules and procedures. As long as a state handles a situation in a way that is consistent with the 1996 Act, the FCC should have no objection.

The 1996 Act already provides a national framework for the development of competitive markets. The general guidelines would help fill in any perceived gaps in this framework. The specific rules would implement sections over which the FCC has authority, and assist states that need help getting their own programs going. We believe that this two-track approach strikes an appropriate balance between the general guidelines that may be needed to flesh out the 1996 Act and would not hamper states that have already adopted their own rules, and the more specific guidelines that might be sought by states that desire some assistance in developing rules for competitive local exchange markets.

In Oregon, we already have designated 14 competitive zones in the Portland area, and have a signed interconnection agreement between US West and a competitor. This is

concrete evidence that the system we have developed to encourage competition in the local exchange is working. FCC rules that would attempt to force a change to this system would be unreasonable, and contrary to the intent of Congress. See Number 8, below.

In paragraph 29 and following, the FCC discusses the possibility of using specific state regulations as national guidelines. At this point in time, when development of competitive markets is just beginning, it is not possible to know which state rules work the best. All of them may require some adjustment as states learn more about how the markets are working and as conditions change, leading to rule adjustments.

Moreover, choosing one state's rules to implement one part of the 1996 Act and another state's rules to implement another part of the 1996 Act could lead to a set of rules that are internally inconsistent and lead to economically inefficient results. This discussion demonstrates another reason why it is better to have general rules, and to allow states to set their own rules to meet their own unique circumstances.

Allowing technical and procedural variation between states will allow states to respond quickly to changes in local conditions - much more quickly than they could respond if they had to wait for a change in an FCC rule. This will allow competition to develop more quickly than it otherwise would.

The discussion in paragraph 96 relates to the fact that one of the state commissions that has made the most progress in the country toward developing competitive markets is still struggling with implementation issues is a further indication that prescriptive rules should NOT be set. States need to experiment with answers before the most workable methods to encourage competition are known. Setting rules before correct answers are known does not make sense. States can learn from New York without seeing it in rules. The fewer and broader the national requirements are, the better they will be able to accommodate new technologies, services, or market conditions without modification.

**10. The limits set on the time period for arbitration are sufficient to prevent unreasonable delays in negotiation.**

In several places (paragraphs 50, 62, 67, 80, and 131), the FCC expresses concern that negotiations will be delayed if the FCC does not set uniform, specific rules. The 1996 Act itself has a very effective tool to limit delays in negotiation - the ability of a party to request arbitration that must be completed within a specified time frame. As shown earlier, states are much further along in the development of competitive markets than indicated in the NPRM. The FCC should not assume that they will be unable to complete arbitration proceedings in the time allotted. When necessary, state commissions and/or negotiating parties will be able to hire professional arbitrators in order to complete their work on time.

**11. Prescriptive rules for physical collocation should not be issued.**

The FCC specifically mentions the possibility of having prescriptive rules for states to use in the area of collocation. In footnote 99 to paragraph 73, the FCC notes that the collocation tariffs that it required at 10 FCC Rcd 1116 are still under investigation. It describes disputes that arose in several areas, even with prescriptive rules. This is proof that prescriptive rules do not necessarily lead to trouble-free implementation. They can result in burdensome delays for all concerned. These are the kind of delays that the 1996 Act attempts to avoid by limiting the time period for arbitration. The issue of rules for collocation is further addressed in paragraphs 67-73. In paragraph 72, the FCC suggests producing guidelines for when physical collocation is not practical for technical reasons or because of space limitations. This is another area that is best left to states and good faith negotiations of the parties to handle, as it is unlikely that a detailed rule would adequately address all of the unique situations that might be encountered.

In any event, we believe that the 1996 Act provides to states the authority to deal with collocation issues, so the FCC should not issue rules governing state actions in this area.

**12. The FCC should list a minimum set of elements that should be unbundled.**

Selecting network elements to be unbundled is one area in which the FCC has authority. The FCC could choose a minimum number of elements, as proposed in paragraph 92, and allow states to require additional unbundling if needed. The FCC's interpretation that states can use their authority under state law to require additional unbundling is sound (at paragraph 78). The FCC could set up an expedited process (no more than 60 days) if a carrier wanted to appeal the extent of unbundling required by a state. If additional unbundling is deemed reasonable, the FCC could add the new unbundled elements to its own rules for all carriers.

**13. National standards should be handled by a national standard setting group envisioned in Section 256.**

Paragraphs 79 and 80 discuss national standards. Section 256 of the 1996 Act envisions a national standard-setting organization that would be industry-based, but in which the FCC would participate as it does now. The FCC should not now assume authority to set any prescriptive technical performance standards because of its responsibility related to network unbundling.

**14. FCC rules that are challenged in court will be of little help in guiding court decisions.**

At paragraphs 23, 24, and 31, the FCC states that its rules will guide court decisions. If the FCC makes specific rules that a party believes are contrary to the 1996 Act, then the rules themselves will become an issue and no administrative efficiency would be achieved. Explicit national rules, therefore, will not necessarily expedite competitive markets if they are so controversial that they are subject to a lengthy court challenge. The FCC should recognize that the 1996 Act itself creates a competitive environment.

**15. The point of interconnection should be subject to negotiation rather than specified in FCC rules.**

Paragraphs 56 through 59 discuss the FCC's role in determining technically feasible interconnection points. Engineers determine technical feasibility not only by the underlying technology, but by the methods used by the incumbent LEC to deploy that technology and to interconnect that technology to its own network. Many solutions to an interconnection problem may be technically feasible, but some may be more economically attractive than others. Prescriptive FCC rules about where interconnection must take place would not effectively deal with all the combinations and permutations that might occur. This type of analysis is best left to the states when negotiations fail, because each situation must be evaluated separately.

In its Order 96-021 (Attachment A), the OrPUC has taken the position that the point of interconnection should be a subject of negotiations. Interconnection is technically feasible wherever there is a connection. The engineering issues surrounding interconnection are much more amenable to solution than pricing and policy issues, and can be left to negotiations without making prescriptive rules. The potential for harm to the network should be a consideration, but the decisions about specific points of interconnection should be left to the states. A static definition of allowable interconnection points might not allow interconnecting companies to take advantage of newer, more efficient technologies as they are developed. Specifying allowable points of interconnection might result in interconnection agreements that are not optimally efficient for the incumbent LEC or for competitive entrants. For example, suppose that the FCC named a list of places where interconnection is deemed to be feasible. Now suppose that a competitor wishes to interconnect at a different point because it is much closer and much cheaper to interconnect there. Would the incumbent LEC have any inducement to allow such an interconnection? Of course not, and now its competitor has been disadvantaged due to the specificity of the rules.

Only the broadest standards, already listed in the 1996 Act, should cover interconnection agreements. Developing prescriptive standards runs the risk of prohibiting a contract term that might reasonably fit a unique situation, but might not be applicable to the majority of contracts. Without flexibility in this area, competitors might not be able to get the contract terms they need in order to go into business.

OrPUC's terms and conditions for interconnection are in Attachment A, Order 96-021, as requested in paragraph 59.

**16. Service quality standards should be set by states.**

The items discussed in paragraphs 61-62 should be left to states. In particular, the 1996 Act clearly gives states the right to impose service quality standards on LECs, and installation, maintenance, and repair clearly come under the definition of service quality. The OrPUC has been working with the US West Regional Oversight Committee (ROC) to develop reasonable technical standards. A copy of the standards is provided as Attachment B to these comments. We are providing these because they demonstrate that this is work that the FCC does not need to do, and because the FCC may find them instructive as it develops rules to use if and when it must act as an arbitrator of a dispute.

**17. Competitors should not be required to offer services just because they purchase network elements that would allow them to offer those services.**

In paragraph 84, the FCC suggests that if a competitor purchases network elements capable of providing a service, it should be required to provide that service. This would discourage competition. As a general rule, Oregon does not require competitors to provide services that they do not wish to offer. All, however are required to offer 911 and E-911, where they are available.

**18. Interconnection rules must eliminate the possibility of arbitrage.**

Both FCC rules and state rules should deal with this issue. At Paragraph 161, the FCC tentatively concludes that access provided to interstate interexchange carriers (IXCs) remains under 47 CFR Part 69 of the FCC's access charge rules and is not provided pursuant to Section 251(c)(2) of the Act. In looking at Section 251(i) and the Joint Explanatory Statement of the Committee of Conference, we agree. However, this does little to solve the incentive for rate shopping by IXCs due to potential interconnection price anomalies created by pricing policies established under Part 69 versus those established under Section 252(d) (1) through (3) of the Act. The FCC identifies the potential for IXCs to circumvent the FCC's access charge rules in Paragraphs 163 and 164 of its NPRM. Also, in Paragraph 146 of its NPRM, the FCC recognizes that in the long term, such price anomalies cannot be sustained. The OrPUC agrees. The OrPUC is concerned that, even in the near term, such price anomalies will create a bewildering multi-layered set of interconnection prices that will invite arbitrage and discrimination that may be impossible to adequately administer or control. Even such concepts as exchange boundaries, that differentiate interexchange services from intraexchange services, become artificial in the context of radio common carriers and competitive exchange carriers whose networks are configured radically differently from those of the incumbent local exchange carriers.

An integrated approach toward access charge reform, interconnection pricing and universal service funding, particularly for high-cost and rural areas that experience severe revenue erosion due to access charge reform, is essential. For the average of small local exchange companies in Oregon (those having less that 15,000 access lines) about 60 percent of their gross revenues (or about $40 per line per month) are derived from carrier access charges (excluding subscriber line charges). For GTE and U S WEST about 40 percent of their gross revenues (or about $20 per line per month) are derived from intraLATA toll and carrier access charges (excluding subscriber line charges and access payments to other LECs). Thus, recognizing that price anomalies for interconnection to the local exchange network cannot be sustained in a competitive environment, Oregon is convinced that we as regulators must tread cautiously through the new regulatory "paradigm" to ensure that balance is retained between competition and universal affordable basic telephone service. For example, issues regarding subscriber line charges and separations should be referred to a Federal/State Joint Board. States should be granted broad flexibility to deal with the specific local conditions encountered in each state in order to handle with this situation as effectively as possible.

**19. Setting price maximums is undesirable.**

The FCC proposes setting price maximums as a way of preventing LECs from charging unreasonable prices. A price maximum would have to be set as high as the reasonable price for the highest cost company, or it could be challenged as being

confiscatory. The LECs, knowing the ceiling, could adjust their cost analyses to make their prices rise toward the maximum. Consumers everywhere but in the highest cost area would pay higher prices. This is a high price to pay to reduce an administrative burden, and would not achieve the goal of preventing LECs from charging unreasonable prices. In any event, this issue comes under state authority, so the FCC should not be setting a prescriptive rule for states to carry out.

**20. For the FCC to attempt to exert authority in any area related to pricing would be poor public policy.**

AS the OrPUC has discovered in its UM 351 docket, pricing issues in an unbundled environment are extremely complex. LECs have different cost structures. States in which they operate have developed different policies with respect to ratemaking. The pricing for services and features in interconnection agreements and the resulting revenues from those agreements must be part of an integrated program of state ratemaking. Pricing policies dictated by the FCC would undermine state authority. Rigid pricing guidelines for all states and all companies would be unworkable. No doubt this is why Congress passed legislation in which pricing in the intrastate jurisdiction as a whole is an area over which the FCC does not have authority. See the discussion under Number 8, above.

**21. The FCC should not set rules pertaining to the way states carry out their authority under Section 251(f) related to exemptions.**

At paragraph 261 of the NPRM, the FCC tentatively concludes that authority related to exemptions for rural and small companies is reserved to states. We wholeheartedly agree with this conclusion. This is authority clearly reserved to the states.

**22. States should be allowed to prohibit the resale of subsidized services.**

We agree with the analysis in paragraph 176. States must have the authority to prohibit the resale of services that are subsidized because incorrect economic signals as to the cost of subsidized services would then lead to the possibility of uneconomic investment. States should also have the authority to determine when wholesale discounts are appropriate.

**23. Applicability of Section 251(c) to interconnection arrangements between incumbent LECs and providers of interexchange services**
**(Section II.B.2.e.(1) of the NPRM)**

Section 251(c)(2) of the 1996 Act provides:

> (c) ADDITIONAL OBLIGATIONS OF INCUMBENT LOCAL EXCHANGE CARRIERS.--In addition to the duties contained in subsection (b), each incumbent local exchange carrier has the following duties:
>
> * * *

(2) INTERCONNECTION.--The duty to provide, for the facilities and equipment of any requesting telecommunications carrier, interconnection with the local exchange carrier's network--

(A) for the transmission and routing of telephone exchange service and exchange access;

(B) at any technically feasible point within the carrier's network;

(C) that is at least equal in quality to that provided by the local exchange carrier to itself or to any subsidiary, affiliate, or any other party to which the carrier provides interconnection; and

(D) on rates, terms, and conditions that are just, reasonable, and nondiscriminatory, in accordance with the terms and conditions of the agreement and the requirements of this section and section 252.

OrPUC agrees with the Commission's legal analysis in paragraphs 159 to 161 of the NPRM, and with its tentative conclusion in paragraph 161 that

> the obligation to provide interconnection pursuant to section 251(c)(2) does not apply to telecommunications carriers requesting such interconnection for the purpose of originating or terminating interexchange traffic. This tentative conclusion seems consistent with section 251(i), which provides that "[n]othing in this section shall be construed to limit or otherwise affect the Commission's authority under section 201." Section 201 is the statutory basis on which interexchange carriers have long been entitled to interconnect for the purposes of originating and terminating interexchange traffic. * * *
>
> See also Joint Explanatory Statement, at 4 and 10.

**24. Applicability of Section 251(c) to interconnection arrangements between incumbent LECs and commercial mobile radio service (CMRS) providers (Section II.B.2.e.(2) of the NPRM)**

OrPUC agrees with the Commission's tentative conclusions in paragraphs 167

and 68 of the NPRM.

> 167. With respect to section 251(c)(2), because the obligations of that section, and of section 251(c) generally, apply only to incumbent LECs, we tentatively conclude that CMRS providers are not obliged to provide interconnection to requesting telecommunications carriers under the provision of section 251(c)(2). CMRS providers are not encompassed by the 1996 Act's definition of "incumbent local exchange carrier" discussed above.
>
> 168. CEC-CMRS interconnection arrangements may nonetheless fall within the scope of section 251(c)(2) if CMRS providers are "requesting telecommunications carrier[s]" that seek interconnection for the purpose of providing "telephone exchange service and exchange access." * * *

**25. Applicability of Section 251(c) to interconnection arrangements between incumbent LECs and non-competing neighboring LECs**

**(Section II.B.2.e.(3) of the NPRM)**

OrPUC agrees with the Commission's observations that "[t]he language of section 251(c)(2), which encompasses interconnection requested for the purpose of providing 'telephone exchange service and exchange access,' appears to encompass the services provided by non-competing neighboring LECs. By definition, such LECs provide 'telephone exchange service and exchange access.'" NPRM, paragraph 171. There is no provision in section 251--or anywhere else in the 1996 Act--that excludes interconnection arrangements between non-competing neighboring LECs.

Moreover, section 251(a)(1) imposes a duty on telecommunications carriers to interconnect with the facilities and equipment of other telecommunications carriers. The

requirements of sections 251(a)(1) and (c)(2) indicate that the 1996 Act established a comprehensive scheme for interconnection, to ensure an integrated network, or a viable network of networks, for the provision of telecommunications services by multiple and competing providers. See also Joint Explanatory Statement, at 8:

> New section 251(a) imposes a general duty to interconnect directly or indirectly between all telecommunications carriers and the duty not to install network features and functions that do not comply with the guidelines and standards established under new sections 255 and 256 of the Communications Act.

Furthermore, it is not unreasonable to expect that neighboring LECs may choose to become competitors and expand their telephone exchange service to nearby areas. Such is the case in Oregon, where an incumbent LEC, Beaver Creek Cooperative Telephone Company, applied to OrPUC on February 1, 1996, for a certificate of authority to provide local exchange services in the service area of a neighboring incumbent LEC, U S WEST Communications, Inc. (OrPUC Docket No. CP 131.) Thus, there is no cogent reason to distinguish between competing neighboring LECs and non-competing neighboring LECs with respect to the applicability of the interconnection provisions of section 251.

**26. Definition of Transport and Termination of Telecommunications**

**(Section II.C.5.c. of the NPRM)**

Section 251(b)(5) of the 1996 Act provides:

> (b) OBLIGATIONS OF ALL LOCAL EXCHANGE CARRIERS.--Each local exchange carrier has the following duties:

* * *

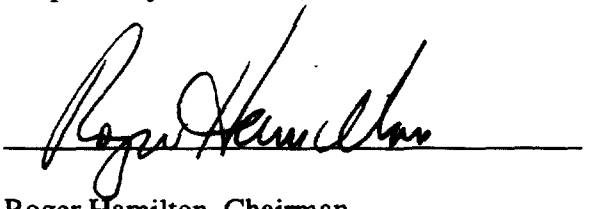
> (5) RECIPROCAL COMPENSATION.--The duty to establish reciprocal compensation arrangements for the transport and termination of telecommunications.

The broad language of section 251(b)(5) encompasses "transport and termination of telecommunications" traffic passing between neighboring LECs that do not compete with one another. And, there is no provision in section 251--or anywhere else in the 1996 Act--that excludes "transport and termination of telecommunications" traffic passing between non-competing neighboring LECs. See also Joint Explanatory Statement, at 8 ("[t]he conferees note that the duties imposed under section new [sic] 251(b) make sense only in the context of a specific request from another telecommunications carriers or any other person who actually seeks to connect with or provide services using the LEC's network").

Moreover, as noted in the discussion above concerning the applicability of section 251(c)(2) to interconnection arrangements between incumbent LECs and non-competing neighboring LECs, the requirements of section 251 indicate that the 1996 Act established a comprehensive scheme for an integrated network, or a viable network of networks, for the provision of telecommunications services by multiple and competing providers. Thus, there is no cogent reason to distinguish between competing neighboring LECs and non-competing neighboring LECs with respect to the provisions of section 251(b)(5) for

reciprocal compensation arrangements for the transport and termination of telecommunications.

Respectfully Submitted,



Roger Hamilton, Chairman

Ron Eachus, Commissioner

Joan Smith, Commissioner

ORDER NO. 96-021

ENTERED JAN 12 1996

# BEFORE THE PUBLIC UTILITY COMMISSION

# OF OREGON

CP 1, CP 14, CP 15

| | | |
|---|---|---|
| In the Matter of the Application of Electric Lightwave, Inc. for a Certificate of Authority to Provide Telecommunications Services in Oregon. (CP 1) | ) | |
| In the Matter of the Application of MFS Intelenet of Oregon, Inc. for a Certificate of Authority to Provide Telecommunications Services in Oregon and Classification as a Competitive Telecommunications Provider. (CP 14) | ) | ORDER |
| In the Matter of the Application of MCI Metro Access Transmission Services, Inc. for a Certificate of Authority to Provide Telecommunications Services in Oregon and Classification as a Competitive Telecommunications Provider. (CP 15) | ) | |

Attachment A

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## EXECUTIVE SUMMARY

These applications were filed pursuant to ORS 759.050, which authorizes the Commission to certify additional providers of local exchange telecommunications services in the existing service areas of telecommunications utilities if the proposed service is in the public interest. In making this determination, the Commission must consider the effect on rates for local exchange telecommunications service customers both within and outside the competitive zone; the effect on competition in the local exchange telecommunications service area; the effect on access by customers to high quality innovative telecommunications service in the local exchange telecommunications service area; and any other facts the Commission considers relevant.

The issues listed below reflect the factors that ORS 759.050 requires the Commission to consider. After considering these factors, the Commission finds that the applications of Electric Lightwave, Inc., MFS Intelenet of Oregon, Inc., and MCI Metro Access Telecommunications Services, Inc., for authority to provide local exchange service in the service territories of USWC and GTE are in the public interest and should be granted. Pursuant to this finding the following telephone exchanges are designated as competitive zones under the statute: Burlington, North Plains, Lake Oswego, Milwaukie-Oak Grove, Oregon City, and Portland (USWC exchanges); and Beaverton, Forest Grove, Gresham, Hillsboro, Scholls, Sherwood, Stafford, and Tigard (GTE exchanges).

**Issue I: How will the application affect rates for local exchange telecommunications customers within and outside the competitive zone?**

**(a) What is the financial impact on LECs if the application is granted?**

In the long term, the Commission believes that competitive entry will cause downward pressure on rates for the telecommunications services, but the effect of the market presence of the new entrants cannot be quantified at this time. The Commission finds that competition will develop gradually, and that the initial beneficiaries of competition will mainly be business customers. Business rates will fall over time, but because firms will compete in terms of service quality and services offered as well as price, we cannot presently quantify the potential drop in rates. If the LECs lose revenues to competition within the competitive zone, there will be upward pressure on residential rates outside the zone to offset the lost revenues.

It is not certain, however, that local exchange competition will cause the local exchange companies (LECs) to lose revenue. They may lose market share to the new entrants, but the market is likely to grow through an increase in consumption of lines and

services. Net revenue loss could also be contained through cost-cutting and use of more efficient technologies.

The financial impact on the LECs will also depend on the extent of market penetration by the alternative exchange carriers (AECs) and their pattern of entry. It will also depend on the LECs' response to competition and on the regulatory policies adopted by the Commission.

**II. How will the applications affect competition within the local exchange service area?**

**(a) Will the applicants' proposed service stimulate competition?**
**(b) How will local exchange providers respond to the presence of competitive local service providers?**

Competitive entry will increase the quality and variety of service and decrease price for telecommunications customers. Entry should also promote deployment of new technology and foster innovation. Over time, benefits from new technology and innovation will flow to all users. In the short term, the main beneficiaries are likely to be business customers.

The development of competition depends on appropriate conditions being established by the Commission. These conditions include elimination of entry restrictions, equal access to rights of way, local number portability, dialing parity, unbundling the monopoly local exchange network, comprehensive interconnection, cost-based pricing by the incumbents, imputation, elimination of resale restrictions, and open technical standards. These issues must be resolved as we move forward into a competitive environment.

The incumbent local exchange providers will respond to competition by lowering prices, increasing efficiency, and creating new service packages. In the longer term, they are likely to respond by improving the quality of their service.

**III. How will the application affect access by customers to high quality, innovative telecommunications service in the local exchange service area?**
**(a) What new or improved services will be offered by the applicants or the LECs?**
**(b) Will the applicants' application affect the quality of service offered by the LECs?**
**(c) What effect will the application have on economic efficiency?**

The applicants' initial service offerings will be similar to those already available. Incumbents and new entrants will also compete on the basis of customer service. At the very least, competition will improve the quality of service and enhance the economic efficiency of participants in the local exchange market. In the long term, the competitive environment should promote new products, innovation, and the deployment of existing technologies not yet in widespread use.